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Ontario Hydro - Electricity
Inquiry Commission
1922-1924
J. ALLAN ROSS
Commissioner

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Miscellaneous documents



THE SENATE OF CANADA
SPECIAL COMMITTEE ON
OIL SHALES.
INTERVIEW WITH
MR. JOHN MURPHY.

THE SENATE OF CANADA

SPECIAL COMMITTEE ON OIL SHALES

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The Parliament Buildings-- the House of Commons, Library
Ottawa, June 15, 1920.

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called and examined

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BY THE CHAIRMAN: ss. The Parliament Buildings were

Q. that Mr. Murphy, what position for you occupy in the
Government service?-- A. My title, Mr. Chairman, is Elec-
trical Engineer of the Department of Railways and Canals
and the Board of Railway Commissioners for Canada. I am
also a Member of the Dominion Power Board, which is made
up of officials from various Federal departments. A hydrau-
lic engineer from each of the provinces of Ontario and
Quebec is also on the Power Board, but these men are not
official representatives of the provinces in question.

Q. as at You are perfectly familiar, then, with Water
power development?-- A. I perhaps should say, Mr. Chairman,
that ever since I graduated from the College of Ottawa in
1884, I have been intimately connected with the evolution
or the development of hydro electric work and the operation
of hydro electric plants. The change that has taken place
during my own actual working life is perhaps best illustrated

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by the fact that at the time I graduated from College, in 1884, the title of Electrical Engineer was unknown. The Parliament Buildings--- the House of Commons, Library and Senate--- were at the time electrically lighted, and only a few horse power was required to do that lighting. But there were, at that time, no known means of economically transmitting the small amount of power needed across the three-quarters of a mile gap from the site of the 100,000 horse power of the Chaudiere Falls to the Parliament Buildings. The Parliament Buildings were at that time lighted by a steam-electric power plant. The development which has taken place during my own actual working experience has, as you know, been tremendous, and I have been continuously and closely in touch with that development all the time.

Besides carrying out my regular duties in connection with the two departments of the Government that I have mentioned, I tried during the war to assist the Power Controller from September, 1917, to February, 1918, in an attempt to get power for important munition works in Ontario; and, from February, 1918, to the close of the war, I did assist the Fuel Controller in connection with his efforts to save coal. I might mention incidentally, without attempting to go into any of the details,

by the fact that at the time I graduated from College, in 1884, the title of Electrical Engineer was unknown. The Parliament Buildings-- the House of Commons, Library and Senate-- were at the time electrically lighted, and only a few horse power was required to do that lighting. But there were, at that time, no known means of economically transmitting the small amount of power needed across the three-quarters of a mile gap from the site of the 100,000 horse power of the Grandlake Falls to the Parliament Buildings. The Parliament Buildings were at that time lighted by a steam-electric power plant. The development which has taken place during my own actual working experience has, as you know, been tremendous, and I have been continuously and closely in touch with that development all the time.

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that my experience with the Power Controller during those terrible months of the war, from the fall of 1917 to the spring of 1918, were the worst experiences of my life.

Q. In what regard?--- A. The need for power for munition work was very well known, but, notwithstanding that fact, power for munition work seem to be the least important thing in the mind of the Chairman of the Hydro Electric Power Commission and his Chief Engineer! Many of the details of the facts to which I refer are in the hands of the Power Controller or in his records, and can, I assume, be obtained if they are needed at some future time by your Committee or by anybody else. I would be pleased to present them if you want them.

Q. Do you mean, Mr. Murphy, that the Chairman did not show any anxiety to supply electric power for the making of munitions during the war?--- A. Yes, Sir. My experiences and investigations actually showed that unimportant works throughout the province of Ontario received more consideration and were supplied with power more frequently and more steadily than the most essential war work in America.

Q. As for instance? What to you say was getting power when you could not get it?--- A. Municipalities throughout the province, served by the Hydro Electric Commission, were

that my experience with the Power Controller during those terrible months of the war, from the fall of 1917 to the spring of 1918, were the worst experiences of my life.

9. In what regard?-- A. The need for power for munition work was very well known, but, notwithstanding that fact, power for munition work seem to be the least important thing in the mind of the Chairman of the Hydro Electric Power Commission and his Chief Engineer! Many of the details of the facts to which I refer are in the hands of the Power Controller or in his records, and can, I assume, be obtained if they are needed at some future time by your Committee or by anybody else. I would be pleased to present them if you want them.

9. Do you mean, Mr. Murphy, that the Chairman did not show any anxiety to supply electric power for the making of munitions during the war?-- A. Yes, Sir. My experience and investigations actually showed that munition works through out the province of Ontario received more consideration and were supplied with power more frequently and more steadily than the most essential war work in America.

9. As for instance? What do you say was getting power when you could not get it?-- A. Munitionaries throughout the province, served by the Hydro Electric Commission, were

served unreservedly with power, which was being used without restriction, for example, for electric heating---- the most wasteful use to which electrical energy could be applied. Not only was no attempt made to prevent that waste, so that war-works could be served, but rates were so arranged--- that is, reduced--- that electric heating was encouraged during the very time when, for example, the Electro Metals plant at Welland, which was making ferro silicon, was unable to get power. The Electro Metals Company's plant was the only plant in British North America which was making ferro silicon. Ferro silicon was said by the Admiralty to be needed at the battle front worse than anything else that could come from America, including shells. Electric heating and other such wasteful things were carried on while those works--- the Ferro silicon works--- were shut down time and again.

Q. Shut down for lack of power?--- A. For lack of power; ruthlessly cut off from the lines of the Hydro Electric Commission--- despite the appeals from London and Ottawa.

Q. How about other methods of waste? A. Perhaps the one I have mentioned is the most striking one. No attempt was made to economize in the use of power for a long, long, time.

served unnecessarily with power, which was being used without restriction, for example, for electric heating--- the most wasteful use to which electrical energy could be applied. Not only was no attempt made to prevent that waste, so that war-works could be served, but rates were so arranged--- that is, reduced--- that electric heating was encouraged during the very time when, for example, the Electro Metals plant at Walsand, which was making ferro silicon, was unable to get power. The Electro Metals Company's plant was the only plant in British North America which was making ferro silicon. Ferro silicon was sold by the Admiralty to be needed at the battle front worse than anything else that could come from America, including shells. Electric heating and other such wasteful things were carried on while those works--- the Ferro silicon works--- were shut down time and again.

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BY HON. MR. McLEAN:

Q. Were any other plants in connection with the Hydro-Electric shut off at the same time as you would be shut off - when they wanted power for munition works ? -

A. When you speak of my being shut off, you mean the Electro Metals Plant ?

Q. Yes, - A. Others were shut off after that. That was the one shut off first. If that question interests your Committee, I would be very glad to read a copy of a letter upon that subject which I wrote to the Chief Engineer of the Hydro-Electric Power Commission. A copy was sent to Sir Adam Beck and a copy was also sent to Sir Joseph Flavelle.

BY THE CHAIRMAN:

Q. It would interest us most intensely and intimately. - A. This letter was written by myself, with - I might say - the forced permission of the Power Controller, after I had made many unsuccessful trips to Toronto, Niagara Falls and Welland - where the plant of the Electro Metals is located - in my endeavors to arouse the sympathetic interest of the Chairman of the Hydro-Electric Commission and his chief engineer in the necessity of producing ferro silicon. For your information I may mention that ferro silicon is used not only for the production of high grade steel for armor plate and for shells, but it was used also for the production of hydrogen gas for the inflation of the observation balloons in France and Flanders. Now, you should first know there was tremendous world shortage of ferro silicon. It caused a

BY MR. McLENNAN:

Q. Were any other plants in connection with the Hydro-Electric at that time as you would be about it - when they wanted power for munition works? - A. When you speak of my being about it, you mean the Electric Works plant? Q. Yes, - A. Others were about it after that. That was the one about it first. If that question interests your Committee, I would be very glad to read a copy of a letter upon that subject which I wrote to the Chief Engineer of the Hydro-Electric Power Commission. A copy was sent to Sir Adam Beck and a copy was also sent to Sir Joseph Flavelle.

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shortage of steel, because high-grade steel cannot be made without ferro-silicon. The Imperial Munitions Board received many cables from the Admiralty to the effect that ferro silicon must be rushed across; ferro silicon first ! Shells, certainly, but ferro silicon, ferro silicon ! This letter which I am about to read sums up the situation and it refers to the unsuccessful efforts which had been made from September, 1917, up to its date, January 3rd, 1918. I pleaded with the Power Controller to make a summary like this and send it to Sir Adam Beck, but he put me off with the statement, "You write Sir Adam Beck,". Knowing the nonsense of such a direction, and the way Sir Adam Beck would have received a letter from myself - he would have ignored it - as he did - I finally said: "Perhaps I had better write to his Chief Engineer?" The Power Controller said: "Yes, write Gaby" (his Chief Engineer). So I wrote this letter:

"Dear Mr. Gaby,- Re Ferro Silicon."

Q. To whom is that letter ?--- A. It is addressed to Mr. F. A. Gaby, the Chief Engineer of the Ontario Hydro-Electric Commission; he is also Chief Engineer of the Ontario Power Company. The Ontario Power Company is owned and operated by the Hydro-Electric Commission. The Ontario Power Company is the biggest power-producing Company at Niagara Falls on the Canadian side.

Q. Then you would not be addressing Beck directly, but addressing Beck through the Chief Engineer ? A. Yes, sir, I sent a copy of this letter to Sir Adam Beck and I sent a copy

shortage of steel, because high-grade steel cannot be made without ferro-silicon. The Imperial Munitions Board received many cables from the Admiralty to the effect that ferro-silicon must be rushed across; ferro-silicon first! Shellia, certainly but ferro-silicon, ferro-silicon! This letter which I am about to read sums up the situation and it refers to the unsuccessful efforts which had been made from September, 1917, up to its date, January 2nd, 1918. I pleaded with the Power Controller to make a summary like this and send it to Sir Adam Beck, but he put me off with the statement, "You write Sir Adam Beck," knowing the nonsense of such a direction, and the way Sir Adam Beck would have received a letter from myself - he would have ignored it - as he did - I finally said: "Perhaps I had better write to his Chief Engineer?" The Power Controller said: "Yes, write Gaby" (his Chief Engineer). So I wrote this letter:

"Dear Mr. Gaby, - Re Ferro Silicon."

To whom is that letter? - A. It is addressed to Mr. R. A. Gaby, the Chief Engineer of the Ontario Hydro-Electric Commission; he is also Chief Engineer of the Ontario Power Company. The Ontario Power Company is owned and operated by the Hydro-Electric Commission. The Ontario Power Company is the largest power-producing company at Niagara Falls on the Canadian side.

Q. Then you would not be addressing Beck directly, addressing Beck through the Chief Engineer? A. Yes, sir. I sent a copy of this letter to Sir Adam Beck and I sent a copy

of it to Sir Joseph Flavelle so that the latter would at least see that I was trying to do something. He knew I had been trying to do something for a long time but without results ! This letter pleased him greatly. He sent a messenger in to pat me on the back and to tell me there would be no more trouble, now that the need for ferro silicon had been placed so forcibly before the Hydro-Electric Commission. I felt like throttling that messenger, because I knew that letter would do no good ! I told him this letter would have no more effect on Sir Adam Beck and his Chief Engineer than pouring water on the back of a duck; and that I had talked to them in this same manner without any result. My letter is a summary of the situation, which is, in my own opinion, even at this late date, somewhat startling:

Dear Mr. Gaby:

Re Ferro Silicon.

Much has been said, written and telegraphed regarding the necessity for continuous intensive production of Ferro Silicon at the plant of Electro Metals, Limited, Welland. But notwithstanding all this, the power supply from your lines to this plant has been cut down so often that the power controller now directs me to send you a summary of the whole situation, in the hope that a superhuman effort will be made to improve it.

I should interject here, parenthetically, that I went out of my way to say the Power Controller directed me to send this summary. That was almost stretching the truth ! I could not arouse the interest of the Power Controller in the situation;

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summary. That was almost stretching the truth. I could not
because the interest of the power controller in the situation

he played with it and he allowed Sir Adam Beck to play with it from September to March ! The letter goes on:

The Imperial Munitions Board keeps up a never-ending call for Ferro Silicon; its need at the battle front is greater than any other. Stronger language cannot be used. Moreover the Electro Metals plant at Welland is the only one to which the above board looks for Ferro Silicon; hence its interest in the continuous operation of that plant.

In order that the Board would have first hand information regarding operating conditions at the above plant, it has had Mr. F. W. Pennock, and Electrical Engineer, located there. You will recall his name because he reports having telephoned you last week. Mr. Pennock's reports coupled with others received since September all indicate the following state of affairs: -- Whenever any power shortage occurs, from any cause, Electro Metals has its sorely needed supply immediately reduced. When the output of a Toronto Power Company's generator is withdrawn from your system, Electro Metals' supply is cut down.

When ice blocks the flow of water into the Canadian Niagara Power Company's plant, and its contribution to your System is thereby reduced, Electro Metals' supply is cut down. When the latter Power Company's generators are broken down, the above procedure is repeated - in fact, whenever "some head has to be cracked" Electro Metals' head is always hit.

It is probably unnecessary for me to remind you that I thoroughly appreciate the absolute necessity of instantly removing some load from a combination of large interconnected generating stations, as soon as a portion of the power-producing plant fails; if a portion of the load is not instantly removed, a total collapse is usually inevitable. But, as soon as stability is secured, after such happenings, can you not get Electro Metals "on" again - even though it may have been necessary to momentarily cut them off as a Safety First measure ?

When "break-downs" of any character cause blocks of power amounting to 20,000 kilowatts to be taken away from your already-overloaded System, it is easy to understand that much hardship must ensue; and, let me assure you, I know something, from personal experience, about the difficulties of trying to make one horse power supply the needs of two.

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it from September to March. The latter goes on:

The Imperial Canadian Board keeps up a never-ending call for more stations; the need at the battle front is greater than any other. Stronger language cannot be used. Moreover the Electro Metals plant at Welland is the only one to which the above board looks for more stations; hence its interest in the continuous operation of that plant.

In order that the Board would have first hand information regarding operating conditions at the above plant, it has had Mr. F. W. Pennock, and Electrical Engineer, located there. You will recall his name because he reports having telephoned you last week. Mr. Pennock's reports coupled with others received since September all indicate the following state of affairs: -- Whenever any power shortage occurs, from any cause, Electro Metals has its supply needed supply immediately reduced. When the output of a Toronto Power Company's generator is withdrawn from your system, Electro Metals' supply is cut down.

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With the above statements in mind are you in a position to direct your plant operators to keep the needs of Electro Metals in the foreground and supply this plant with power first, last and all the time ?

You would greatly oblige me by sending me a reply to this letter as early as possible.

Thanking you in advance, I remain,

Yours truly,

(signed) John Murphy.

As I said, a copy of this went to Sir Joseph Flavelle, and a copy to Sir Adam Beck. I followed up this letter by a personal visit to their office in Toronto a few days afterwards. You may suppose that I expected a warm reception after such charges as this ?

Q. Did you get any answer ? A. I could not get their chief engineer to even discuss this all-important matter ! I asked him if he got my letter ? He said, "I replied to it." I visited him, if my memory serves me, on the 8th of January five days after the letter was written. I said, "I was in my office yesterday; your reply had not come. What did you say in your reply ?" He quietly replied: "We said we would do the best we could." Mark you, he did not challenge any of my statements ! They were all true; they could not be challenged ! And he treated this, the most important matter on earth, as if it were an unimportant matter !

Q. Who is "he" ? --- A. Mr. F. A. Gaby, the gentleman to whom this letter is addressed, is Sir Adam Beck's Chief Engineer.

With the above statements in mind are you in a position to direct your plant operators to keep the needs of Electro Metals in the foreground and to apply this plant with power first, last and all the time?

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Q. Did you get any answer? A. I could not get their chief engineer to even discuss this all-important matter. I asked him if he got my letter? He said, "I replied to it." I visited him, at my memory serves me, on the 6th of January five days after the letter was written. I said, "I was in my office yesterday; your reply had not come. What did you say in your reply?" He wisely replied: "We said we would do the best we could." Mark you, he did not challenge any of my statements. They were all true; they could not be challenged. And he treated this, the most important matter on earth, as if it were an unimportant matter.

Q. Who is "he"? A. Mr. F. A. Gaby, the gentleman whom this letter is addressed, is Sir Adam Beck's Chief Engineer.

Q. Where is he from ? Is he a Canadian ? -

A. He is, if I am not mistaken. While unsuccessfully attempting to discuss this matter with him, Sir Adam Beck came into the room, and after conversing a short time with Mr. Gaby he started to go out of the room. I said: "Pardon me, Sir Adam." He stopped and looked at me. I said: "I took the liberty of sending to you a copy of a letter which I wrote Mr. Gaby last week referring to the ferro silicon situation." The moment I mentioned "ferro silicon" he left the room ! As he was hurrying through the door I shouted after him: "Did you read the letter ?" He uttered a sound like "Yep" --- and he was gone ! I stood up and said to Mr. Gaby, "I had intended to take another look at the plants at the Falls." I should mention, for your information, Mr. Chairman and gentlemen, that I had visited the Falls many times during the preceding months to try to help in this most important war work. I continued: "Perhaps I had better go home ?" But he never raised his eyes from his desk. I finally said: "No, I will make another visit to the plants at the Falls before going home." Then I said to him: "May I go into your plant ?" He replied, "Oh yes, certainly." You see, he was under the hallucination that the Power Controller had some authority over his Commission and he dare not refuse me admission.

I should interject here another piece of information. Between the time of my former visit and the occasion of this proposed visit, two generators belonging to the Canadian Niagara

Q. Where is he from? Is he a Canadian? -
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Power Company, with a combined output of 20,000 horsepower, which had been serving the Hydro-Electric Commission, broke down. Therefore the shortage of power, which was already of considerable magnitude, was augmented by the reduction of 20,000 horse power in plant output when these generators broke down. With that knowledge in my mind I visited on the following day the Superintendent of the Hydro-Electric Commission at the Falls: he was the representative of Sir Adam Beck.

Q. Who is that ? - A. His name was S. B. Jones. This man welcomed me, referred to the hard time they had been having, and in reply to my question, "Are you able to give the ferro silicon works any power at all today ?" he smilingly said: "Oh, yes ! We are pretty good to them today - in my opinion !" Now please remember that these ferro silicon works had been totally shut down, time and again, when the Commission had 20,000 horse power more than they had on the occasion of this my last visit; but now they were giving them their full complement of power, 15,000 horse power'. For my edification: Not to help the work in France and Flanders !

Q. Although they were 20,000 short ? - A. Yes ! Have I made that point plain enough ?

Q. Yes, quite plain.

MR. MURPHY: Do the other gentlemen, members of the Committee, appreciate what I am trying to convey ?

SOME HON. MEMBERS: Yes.

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Commission had 20,000 horse power more than they had on the occasion of this my last visit; but now they were giving them their full complement of power, 18,000 horse power.

For my edification: Not to help the work in France and elsewhere!

Q. Although they were 20,000 short? - A. Yes! Have I made that point plain enough?

Q. Yes, quite plain.

MR. MURPHY: So the other gentlemen, members of

the Committee, surmised that I am trying to convey?

MR. MURPHY: This man, S. B. Jones, was in charge of the Hydro-Electric Commission's power business at the Falls. He knew all about it.

BY HON. MR. McLEAN:

Q. Would anybody else besides yourself be in a position to verify that ? - A. These facts that I am relating now ? Perhaps this man, Jones, is the only one. He, by the way, is not in Canada at present. If I am not mistaken, he went to work for the United States Government, down in Alabama, at a new big power plant (for war work) at Muscle Shoals, Alabama.

Now, knowing that this official would be decapitated if I quoted him, I said to him: "Do not talk to me at all, but let me lookaround as you have been in the habit of doing." I said: "I want to see the indicating instruments showing the amount of power going to the ferro silicon works at Welland." An inspection showed that from shortly after the time I left the office of the Hydro-Electric Commission in Toronto the day before, they had been given their full complement of power - notwithstanding the fact that the power-producing plant was 20,000 horsepower short as compared with other times during which they had been cut off entirely !

BY HON. MR. FARRELL:

Q. How long was it between the time you left the works and that other time ? - A. I visited the power plant the day following the time I left the office in Toronto.

Q. Twenty-four hours ? - A. Nearly so. I went

MR. MURPHY: This man, E. B. Jones, was in charge of the Hydro-Electric Commission's power business at the Falls. He knew all about it.

BY HON. MR. MCELRAE: Would anybody else besides yourself be in a position to verify that? - A. These facts that I am relating now? Perhaps this man, Jones, is the only one. He, by the way, is not in Canada at present. If I am not mistaken, he went to work for the United States Government, down in Alabama at a new big power plant (for war work) at Muscle Shoals, Alabama.

Now, knowing that this official would be disappointed if I quoted him, I said to him: "Go not talk to me at all, but let me look around as you have been in the habit of doing." I said: "I want to see the interesting instruments showing the amount of power going to the four million works at Wolfand." An inspection showed that from shortly after the time I left the office of the Hydro-Electric Commission in Toronto the day before, they had been given their full complement of power - notwithstanding the fact that the power-producing plant was 20,000 horsepower short as compared with other times during which they had been out off entirely!

BY HON. MR. MCELRAE: How long was it between the time you left the works and that other time? - A. I visited the power plant the day following the time I left the office in Toronto.

back to this man's office with him and ran over the whole terrible situation. He, naturally, felt that someone was soon to be shot !

BY HON. MR. TURRIFF:

Q. Did you let him see what you had written (the letter you have just read), or did you tell him ? -

A. I told him what I had written. I told him about my visit to his chief's the day before, and I summarized the whole situation for him. I said to him: "This view (of the full complement of power going to this most essential of war work) today makes me sick ! You are giving them power today because I am here - not because they need help in France ! It is terrible !" And he, fearing that I was going to have him shot, petulantly shouted: "I don't give a damn who gets the power !" I said: "Don't talk like that. You must deliver the power where you are told to deliver it. You get your directions from Toronto, not from me." He shrugged his shoulders; he was, evidently, full of fight; then he again remarked: "I don't give a damn who gets it !" He, of course, meant that he personally must not be blamed for delivering power here, there, or elsewhere. He had to carry out his directions.

BY HON. MR. TURRIFF:

Q. He was right enough. - A. Surely.

BY THE CHAIRMAN:

Q. Only I do not like the way in which he expressed it - that he didn't care who got it. You said, "I understand

back to this man's office with him and ran over the whole
terrible situation. He, naturally, felt that someone was
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BY HON. MR. TURNER:

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BY THE CHAIRMAN:

Q. Only I do not like the way in which he expressed

that you must deliver the power where you are told," and he nodded acquiescence. - A. Yes, when I returned to Ottawa this state of affairs was reported, orally, to the Power Controller - but he funkcd ! I had telegraphed him from Niagara Falls - expecting him to take some action, but he was afraid of Beck.

Q. Who was the Power Controller ? - A. The Power Controller was Sir Henry Drayton. He looked at me so helplessly with the evident intention of taking no action in connection with the matter, that I left him in disgust and went from him to Sir Joseph Flavelle. I said: "Sir Joseph, there may be political or other mysterious reasons, which I do not understand, why the Chairman of the Hydro-Electric Commission of Ontario is permitted to treat the most essential war work in North America as he has been done. But surely there is someone connected with the Federal or the Imperial Government who is not afraid of him ! I then had Sir Joseph Flavelle read this letter, which had been in his office several days. I discussed the whole situation with him, covering the period from September, 1917 to January, 1918, and I reported the conditions as I found them on my last visit. He very naturally and with much amazement put this question to me: "Does the Power Controller know what you are telling me ?" My answer was: "He knows, but these facts do not seem to interest him ! He won't act ! He is afraid of Beck !" His continuous reply to my reports is:

"that you must deliver the power where you are told."

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Ottawa this state of affairs was reported, orally, to the

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"Murphy, you don't seem to realize that Beck is the most popular man in Ontario." Beck's popularity is due to the fact that the mob thinks he is giving them "something for nothing" - cheap light and power - and the press, catering to the crowd, is never tired sounding his praises.

Sir Joseph then asked me what my conclusion was, after my months of investigations ? My reply was: "Sir Adam Beck is either a "Hun" or a madman ! He should be "locked up" on either count ! He should not be allowed to go on !" Sir Joseph Flavelle remarked quietly: "This is a remarkable situation, I am thankful to you for making me acquainted with it." Immediately afterwards Sir Joseph Flavelle wrote the Power Controller to this effect: - "The authorities at Washington, also, are becoming impatient over the power situation." Parenthetically, I should here explain that the output of two very important works, the Union Carbide Company at Welland, and the American Cyanamid Company at Niagara Falls, was being taken up by the United States Government for the manufacture of munitions. The output of these two works was very much reduced - almost as badly reduced as the output of Electro Metals, Limited - by having their power supply cut off from Sir Adam Beck's lines. The authorities at Washington kept communicating with the British Ambassador, he with the Home Office, the latter with Sir Joseph Flavelle, or the Secretary of State for External Affairs - I am not quite sure which; but the outputs of these

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works were not increased, because Sir Adam Beck would not give them "power"! This is why Sir Joseph wrote Sir Henry Drayton in the following terms: - "The authorities at Washington are becoming impatient over the power situation. They are anxious to have a conference, but in my own opinion no good can come from a conference or anything else so long as the Hydro-Electric Commission has its present head."

Q. This is what Sir Joseph wrote ? - A. Sir Joseph wrote this to Sir Henry Drayton, in the hope that this might put some stiffening into his backbone ! I handed him Sir Joseph's letter, he laid it on a heap of rubbish on his desk as though it did not exist. And he actually went down to Washington shortly after, to have the conference! He came back in a very few days, after the conference, and went to bed with nervous prostration ! I am not in a position to say what happened to him at Washington. It is said he was told no coal would come to Canada if he, as Power Controller, did not do some controlling ! Sir Henry and myself did not work together any more after that - in this Niagara power muddle.

Q. You dropped it, or did he ? - A. I occupied a peculiar position in connection with this Niagara power muddle. Sir Henry was Chairman of the Board of Railway Commissioners and I was then, and am still, its Electrical Engineer. When he was appointed to investigate this Niagara power muddle, he - to use my own expression - "Shanghaied" me. He thrust me into it without giving me any authority

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power muddle, he - to use my own expression - "banged"

or status. His directions to me were always oral ones. He persistently and carefully refrained from putting anything in writing, upon which I might lean. And when this situation was reached, to which I have referred, in an attempt to bring him to his senses, as I had no status on the Power Controller's staff, I wanted to know from him if he, as Chief Commissioner of the Board of Railway Commissioners, would give me a leave of absence. This, you may see, was a left-handed way of getting out of his clutches. You should remember I did not exist - so far as the Power Controllorship was concerned. He looked at me somewhat surprised, and said: "While the Board of Railway Commissioners' work is very, very light, there is nothing so important in this world as this power work which we are doing." As his actions and his inactions had absolutely prevented me from helping to make any progress in connection with the power control work, and as nearly every time I made a report he would challenge it with the statement, "Sir Adam Beck says you are wrong," or "I was talking to Sir Adam by telephone at London last night, and he says you are all wrong." I simply pointed to his telephone and said, "If you need further assistance in connection with this work, I am sure you can get it from Sir Adam."

Q. And so you resigned ? - A. I walked away --- from him, but I kept at work in the Department and in the Railway Commission's offices daily right along after that. To those men who came to him inquiring about him me and my

attempt to get power for them and their war work, his stock reply was, "Murphy is sick; I have given him a holiday." They would meet me on the next floor of the building and say, "Hello! Are you not sick? Not away on a holiday?" I would say: "Do I seem to be?" They would go back to Sir Henry: "Murphy is not sick; he is downstairs." He would say, "Oh, he is not very well."

BY HON. MR. McLEAN:

Q. They were bound to make you sick. - A. They were all laughing at him. About six months after, I met him on the Plaza one day and he jovially inquired, "How is your health?" I answered: "I think my health is all right."

BY THE CHAIRMAN:

Q. Then you left? - A. I had no more to do with the Power Control farce! The best proof that my health was all right lies in the fact that I then, at once, took on the duties of Special Agent of the Fuel Controller.

I perhaps should explain that I only terminated my connection with the Power Controller when I had done all that any human being could do. I did not turn my back on any work! I had shown the Power Controller that Sir Adam Beck had created the power shortage in three ways: - (1) by preventing the old Ontario Power Company from extending and increasing its power Producing Plant; (2), by neglecting to undertake this extension work after he had bought them (the O.P.Co.) out; and (3) by continuing to sell power - which

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he could not deliver - because he had already greatly "oversold" his output at the very time new contracts were made with important war works. (The most notable of the latter was the British Forging Plant, at Ashbridge's Bay, Toronto - owned by the British Government). I had also shown the Power Controller that Sir Adam Beck was absolutely ignoring the power needs of the most essential war works and was encouraging the wasteful use of electrical energy throughout all the municipalities by continuing to lower their rates. He thus incited them to waste ! The Power Controller did not doubt my presentation of facts, He kept on, from September, 1917, until February, 1918, pretending to be anxious to secure power for war work - in advance of all other services - but he would take no action to which Sir Adam Beck was opposed.

I think the rupture in our connection helped to make him sick and, incidentally, to wake him up to the fact that the needs of the troops in France and Flanders were of more importance than the "popularity" of Sir Adam Beck with the press and mob in Ontario !

It was only after witnessing for many months the indefensible curtailment of the supply of power to munition works that I discovered why the Power Controller permitted it to go on. He finally stated that he had no "authority" to stop it ! He said he had no authority over "Hydro"! When he drafted his own appointing Order-in-Council he

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made its terms - "Under the War Measures Act" - of such a character that, to use his own words: "No jurisdiction was taken over the Hydro-Electric Power Commission", and again: "I may add that in my view it would have been entirely improper to have taken any jurisdiction over them." (See page 49 of his "Report of the Power Controller" dated May, 1919) He took no jurisdiction, he said, over the only power institution in Canada which was not fulfilling its war contracts and yet he kept on pretending, during the most critical period of the war, to be the Power Controller !

No other Power Company in Canada had failed to supply power to those with whom contracts had been made. No other power company was cutting the supply off from war-work. He took jurisdiction over all those Companies in Ontario which were doing their duty, but he says: "...In my view it would have been entirely improper to have taken any jurisdiction" over Sir Adam Beck's organization ! The only offender was outside his jurisdiction !

Q. You do not know what was the outcome so far as this ferro silicon was concerned ? - A. Well, I do know that it was reported in the newspapers that the Prime Minister, Sir Thomas White, Sir Joseph Flavelle, Hon. Mr. Rowell, and Hon. Mr. Maclean went to Washington. It was just prior to Sir Thomas White's trip to California for his health, in the late winter of 1918. This visit to Washington was in connection with a financial loan, according to the papers. Soon

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late winter of 1918. This visit to Washington was in con-

after the return of these gentlemen to Ottawa the situation was improved. I am not able to say from personal knowledge what happened, but it was common talk that "Washington threatened to stop coal export to Canada if power was not delivered to essential war works !"

BY HON. MR. McLEAN:

Q. Your reason for leaving was that you thought you had no influence and that they were doing what they liked ? - A. I knew that, Sir.

Those experiences were, as I said, side issues, Mr. Chairman, in connection with my regular work.

THE CHAIRMAN: We are glad to have this.

MR. MURPHY: Shall I go on ?

THE CHAIRMAN: Yes, we will take up that other now.

MR. MURPHY: The Chairman explained to me the other day that he wished me to present some evidence in connection with the economical use of coal. My own experience in connection with coal has been chiefly in regard to the production of power, and, incidentally, heat. I had had more to do with hydro-electric stations than with Steam-Electric Stations. I have had something to do with Steam Power Plant - their construction and operation. In order to attempt to make the steam power from coal situation plain to the members of the Committee, I have put a few figures on paper. If you would be so kind as to look at this sheet

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as I talk (exhibiting a sheet), I think you will readily understand the points I wish to present.

1 British Thermal Unit (B.t.u.) is the amount of heat required to raise the temperature of 1 lb. of water 1 degree Fahrenheit.

1 lb. of coal contains 14,500 B.t.u.

7 lbs. of coal, per hour, are required to produce 1 horse power at the wheels of a Steam Locomotive.

In 7 lb. of coal there are - $(14,500 \times 7)$ - 101,500 B.t.u.

But, 1 horsepower-hour is only equivalent to 2545 B.t.u.

Therefore, 101,500 B.t.u. are expended in Steam Locomotives to obtain the equivalent of 2,545 B.t.u.! The efficiency (or the inefficiency) of that operation is only $2\frac{1}{2}$ per cent.

And $97\frac{1}{2}$ per cent of the heat in coal is lost in the process of its conversion into power ! Only $\frac{1}{40}$ is useful - $\frac{39}{40}$ is wasted.

N.B. Memorandum for the Senate Committee on Oil Shales, etc., presented on June 15th, 1920, by

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But, 1 horsepower-hour is only equivalent to

2,545 B.T.U.

Therefore, 101,800 B.T.U. are expended in steam

locomotives to obtain the equivalent of 2,545 B.T.U.

The efficiency (or the inefficiency) of that

operation is only 2 1/2 per cent.

and 97 1/2 per cent of the heat in coal is lost

in the process of its conversion into power!

Only 1/40 is useful - 25/40 is wasted.

M.R. Memorandum for the Senate Committee on

Oil Shales, etc., presented on June 15th,

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JOHN HUNTER

